



Florida K–12 Mathematics Teachers’ Credentials and Preparation

Findings from the 2022 Learn Together Surveys

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Summary of Key Findings

- Education was the most popular college major for Florida mathematics teachers, with mathematics at a distant second. Florida mathematics teachers were less likely to have earned an advanced degree than mathematics teachers nationally.
- Undergraduate teacher preparation programs were the most common pathway for Florida mathematics teachers, followed by post-baccalaureate and alternative certification programs.
- Florida and national mathematics teachers who completed alternative certification programs did so because they were less expensive and provided a faster path to teaching than university-based programs. However, Florida mathematics teachers were more likely than national mathematics teachers to report that the school district that hired them ran the alternative certification program.
- Several of the supports to enter and complete teacher preparation programs that Florida mathematics teachers thought were most helpful—such as student loan forgiveness programs—were also those they had the least access to.
- Florida mathematics teachers reported that their teacher preparation programs prepared them to teach mathematics and support diverse groups of students, irrespective of the type of program they had completed.
- Florida mathematics teachers wanted more time in their teacher preparation programs to learn about managing student behavior, social and emotional learning, practical strategies to engage students, and supporting students with disabilities.

Overview

Florida is experiencing a shortage of high-quality mathematics teachers. According to the Florida Department of Education (FLDOE), there was a critical shortage of K–12 mathematics teachers (among several other subject areas) at the start of the 2022–2023 school year (FLDOE, 2022). In Florida, a subject area is deemed to have a critical teacher shortage when there are substantial vacancies in the subject area, when teachers who are not certified in the subject area teach a substantial proportion of students in Florida classrooms, or when postsecondary institutions are not graduating enough teachers to meet the vacancies in that subject area (Fla. Admin. Code R. 6A-20.0131).

In Florida, mathematics meets all three criteria with the greatest challenges coming from large numbers of vacancies and the limited number of new graduates. Mathematics is the fourth-highest ranked certification area for vacant teaching positions among all 33 certification areas, encompassing 537 of the 9,079 total estimated vacancies for the state in 2021–2022 (FLDOE, 2022). With federal aid provided during the coronavirus disease 2019 pandemic, district leaders nationally have increased the number of teaching staff positions above prepandemic levels, which may have contributed to the number of vacant positions (Diliberti and Schwartz, 2022). However, there is a risk that the current need for additional staff will decline as districts spend down this one-time federal funding.

Across the state, approximately one out of every 17 mathematics courses is taught by a teacher who is not certified to teach mathematics (FLDOE, 2022). In addition, Florida teacher preparation programs are not graduating an adequate number of mathematics teachers to meet the state’s needs. State data suggest that preparation programs graduate about one certified mathematics teacher for every five mathematics teaching vacancies (FLDOE, 2022). Enrollment and completion in teacher preparation programs in Florida have declined over the past several years, raising further questions about the supply of mathematics teachers (Partelow, 2019).

Florida policymakers have focused on increasing the number of alternative teacher certification pathways to address these shortages. Florida recently passed a bill to grant temporary subject area certification to veterans. A baccalaureate degree is not required, but to be eligible, veterans must have completed at least 60 college credits (about two years of college coursework) and are assigned a teacher mentor for their first two years of employment (S. 896, 2022). This temporary certification for veterans is valid for five school years and is nonrenewable. For the 2023 Legislative Session, Governor Ron DeSantis has proposed waiving certification exam fees and providing recruitment bonuses for retired first responders and veterans and an apprenticeship program for prospective teachers with associate degrees (Governor Ron DeSantis’ Press Office, 2022). In light of Florida’s shortage of mathematics teachers

and state policymakers' actions to expand pathways to teaching, a descriptive account of the credentials and preparation backgrounds of the state's existing mathematics teaching workforce could inform developing policy efforts.

In this report, we present selected findings from the 2022 Learn Together Survey (LTS), describing the credentialing pathways taken by Florida mathematics teachers, the teachers' perspectives on the content of their teacher preparation programs, and the availability and helpfulness of resources to enter and complete a teacher preparation program. The findings of this report are descriptive and intended to contribute to Florida policymakers' understanding of the composition and preparation of the mathematics teacher workforce. Thus, we do not discuss implications or present recommendations.

Limitations

- Our sample of Florida mathematics teachers is small ($N = 186$). Although our sample of mathematics teachers is a subgroup of a larger, state-representative sample of Florida teachers, these results may not generalize to all mathematics teachers in the state, and any differences across teacher subgroups should be interpreted cautiously. The size of our sample limits our ability to detect statistically significant differences across subgroups (e.g., differences by teacher race and/or ethnicity), so we present only subgroup differences that are large in magnitude.
- Our analysis is purely descriptive and does not suggest causal relationships.
- The LTS data are self-reported responses to survey questions and might be subject to reporting bias, a limitation that is present in all survey research.

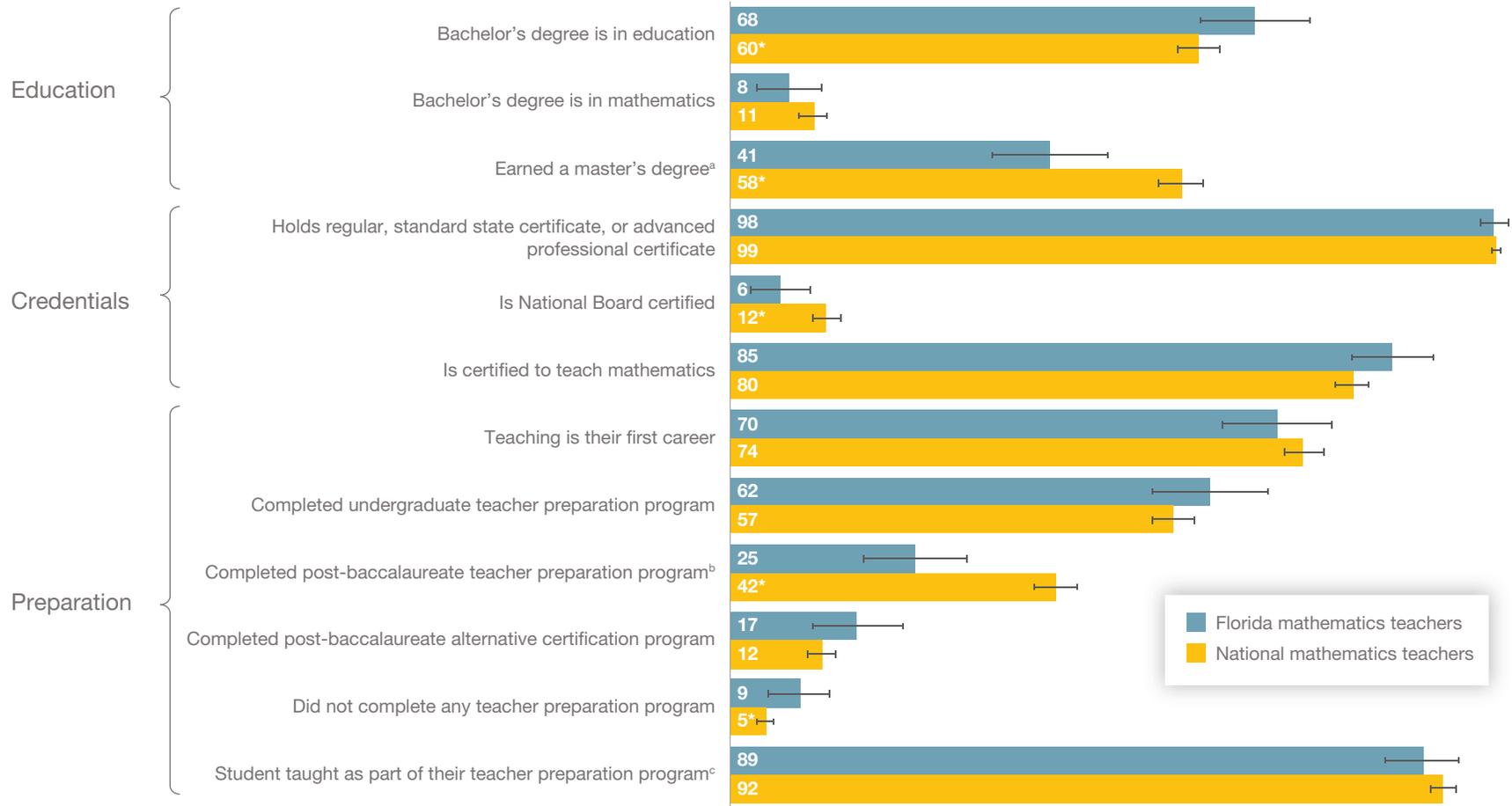
See our How This Analysis Was Conducted section at the end of this report for more information about how we did the analysis.

How to Read the Figures in This Report

- Figures 1–11 present survey responses related to the education, credentialing, and preparation of mathematics teachers in Florida. Each figure is followed by a brief description of key findings.
- In the figures, we use asterisks to indicate when teacher subgroup responses differ statistically significantly ($p < 0.05$) after controlling for school and teacher characteristics.
- There are two types of graphs in this report: bar charts and heat maps.
- How to read the bar charts:
 - At the end of each bar, we display the 95 percent confidence intervals as black lines for each estimate.

- How to read the heat maps:
 - The heat maps use variation in color to depict differences in the percentage of mathematics teachers who selected a given survey response. Cells are color coded on a gradient from 0 percent to 100 percent. Lighter green cells represent smaller percentages of teachers; progressively darker shades of green represent larger percentages of teachers.
 - In each heat map, we order the rows from the most to the least common survey response among Florida mathematics teachers overall. Each column shows responses for a different subgroup.

Figure 1. Education, Credentials, and Preparation of Florida Mathematics Teachers Compared with Mathematics Teachers Nationally



NOTE: This figure reflects mathematics teacher responses to survey questions about their education, credentials, and preparation to become a teacher. The data labels are the percent of teachers who responded “yes” to the question. Asterisks indicate statistically significant difference of pairwise comparisons between Florida mathematics teachers and other mathematics teachers nationally at the $p < 0.05$ level that were robust in linear regression models that controlled for school and teacher characteristics. $N = 186$ (Florida mathematics teachers) and 1,733 (mathematics teachers nationally). Some teachers completed multiple teacher preparation programs; therefore, the sum of the samples disaggregated by program type will be greater than the total.

^a This includes master's degrees earned in any field.

^b The survey did not ask teachers to specify whether their post-baccalaureate teacher preparation program was for initial certification or was an advanced program.

^c Only teachers who completed a teacher preparation program were eligible to respond to this question.

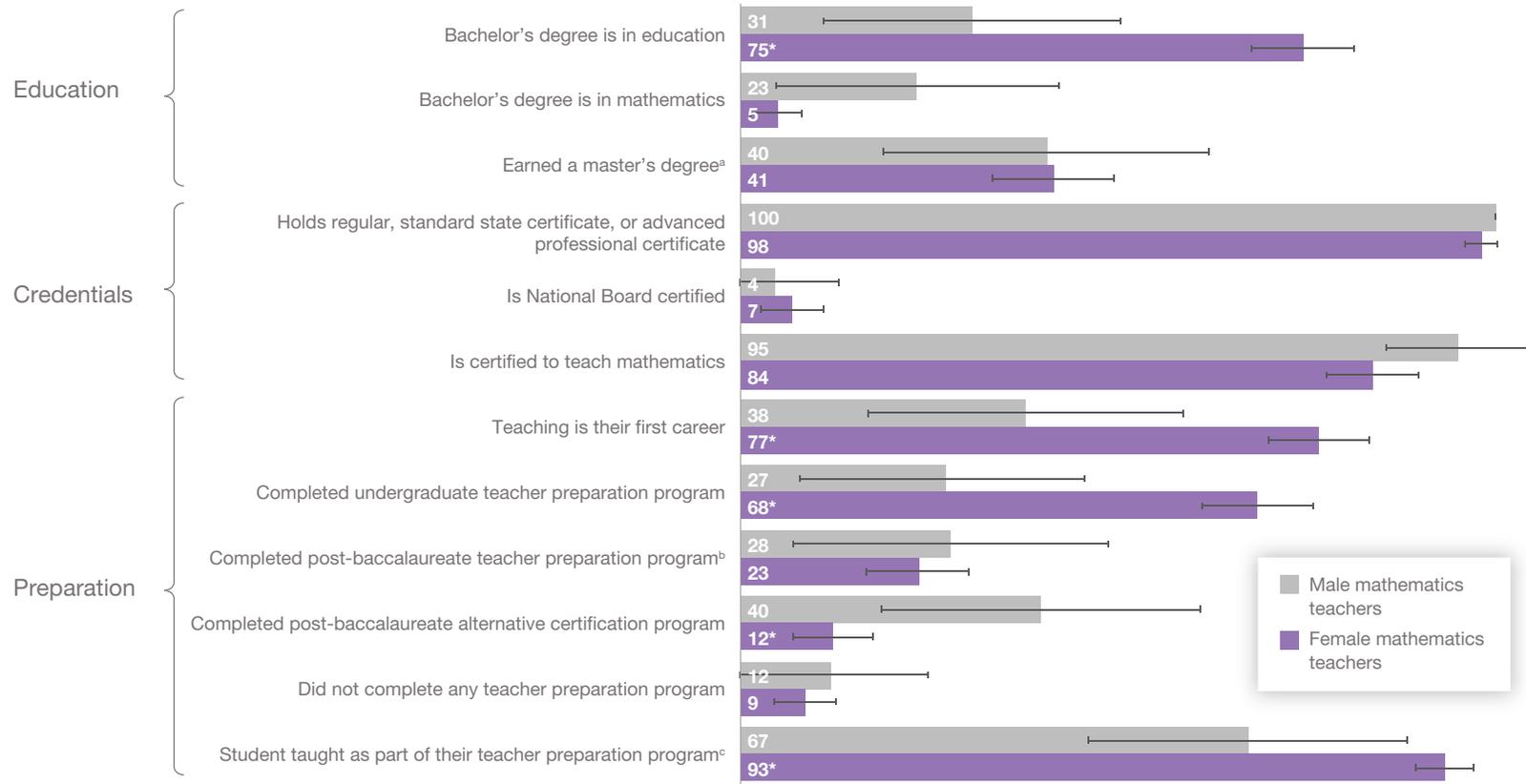
Figure 1 reflects mathematics teacher responses to survey questions about their education, credentials, and preparation to become a teacher.

Florida mathematics teachers were significantly less likely than mathematics teachers nationally to report holding a master's degree. Most Florida mathematics teachers, like mathematics teachers nationally, reported that their bachelor's or master's degree was in education rather than in mathematics.

Nearly all Florida mathematics teachers (98 percent) reportedly hold a regular, standard state certification or advanced professional certification, as do nearly all mathematics teachers nationally (99 percent). Fifteen percent of Florida mathematics teachers and 20 percent of mathematics teachers nationally reported that they are not certified to teach mathematics. Nearly all teachers not certified to teach mathematics were elementary school teachers, who may have broader elementary education certifications without a subject-specific certification.

Florida mathematics teachers were significantly less likely to attend a post-baccalaureate teacher preparation program than mathematics teachers nationally, which follows from the differences in educational attainment. Large majorities of Florida mathematics teachers and mathematics teachers nationally reported that they student taught as part of their teacher preparation program.

Figure 2. Education, Credentials, and Preparation of Florida Mathematics Teachers, by Gender



NOTE: This figure reflects teacher responses to survey questions about their education, credentials, and preparation to become a teacher. The data labels are the percent of teachers who responded “yes” to the question. Asterisks indicate statistically significant difference of pairwise comparisons between male and female mathematics teachers at the $p < 0.05$ level that were also robust in linear regression models with controls for school and teacher characteristics. $N = 22$ (male mathematics teachers in Florida) and 164 (female mathematics teachers in Florida). Respondents were also able to select “non-binary,” “prefer to self-describe as . . .,” or “prefer not to say.” However, no Florida mathematics teachers identified in these ways. Some teachers completed multiple teacher preparation programs; therefore, the sum of the samples disaggregated by program type will be greater than the total.

^a This includes master’s degrees earned in any field.

^b The survey did not ask teachers to specify whether their post-baccalaureate teacher preparation program was for initial certification or was an advanced program.

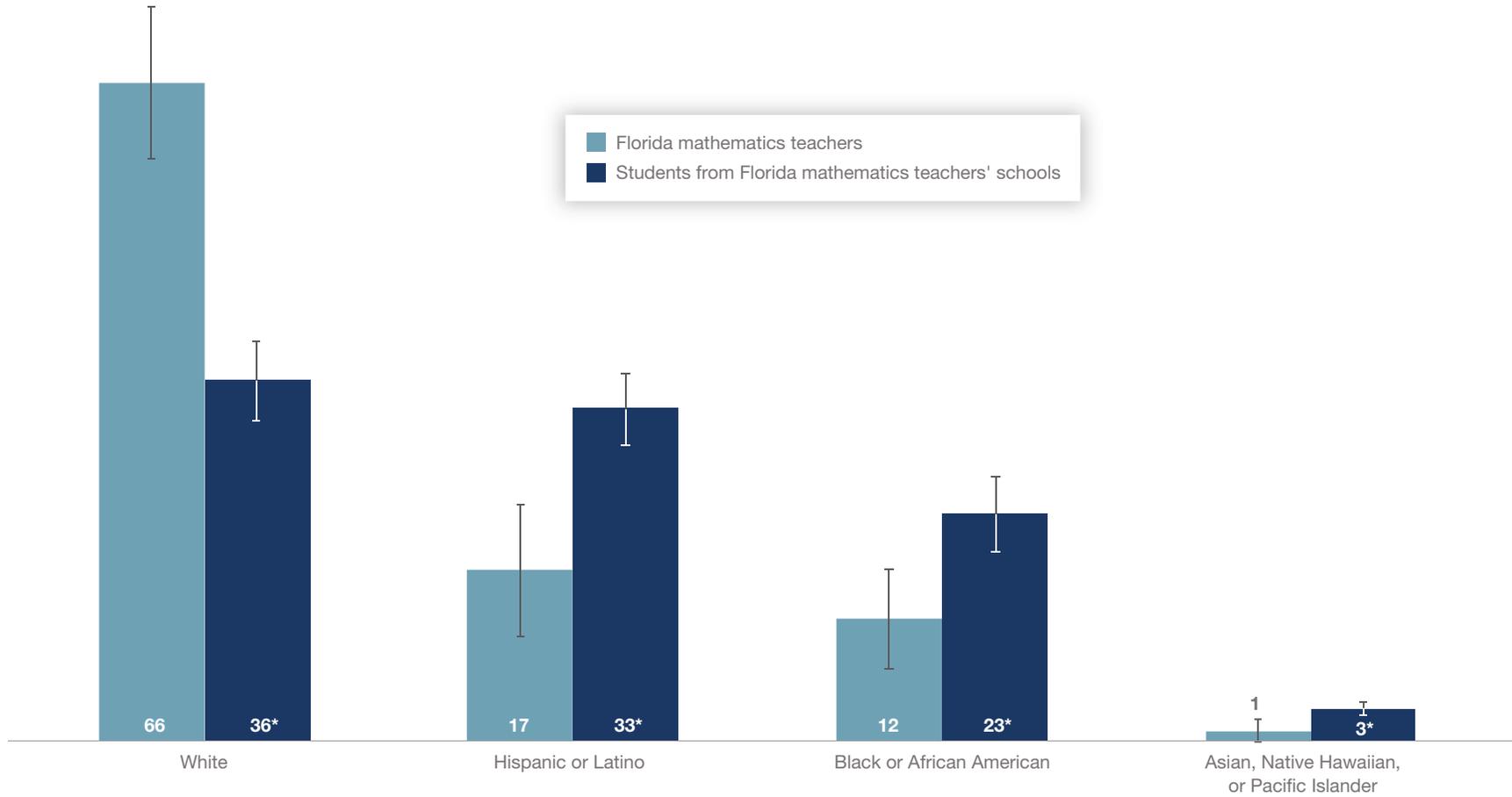
^c Only teachers who completed a teacher preparation program were eligible to respond to this question.

Figure 2 reflects Florida mathematics teacher responses to survey questions about their education, credentials, and preparation to become a teacher, by gender.

Male and female Florida mathematics teachers reported pursuing different credentialing and preparation pathways. Several differences are large in magnitude but were not statistically significant after we controlled for teacher and school characteristics. With a very small sample size for male Florida mathematics teachers ($N = 22$), these results should be interpreted with caution.

Despite sample size limitations, some differences were statistically significant and robust to regression controls. Fewer male mathematics teachers reported attaining a bachelor's degree in education than female mathematics teachers. Male mathematics teachers were more likely than female mathematics teachers to say that teaching was not their first career and to have completed an alternative certification program but were less likely to have student taught while completing their preparation program.

Figure 3. Demographics of Florida Mathematics Teachers and Their Schools' Student Bodies

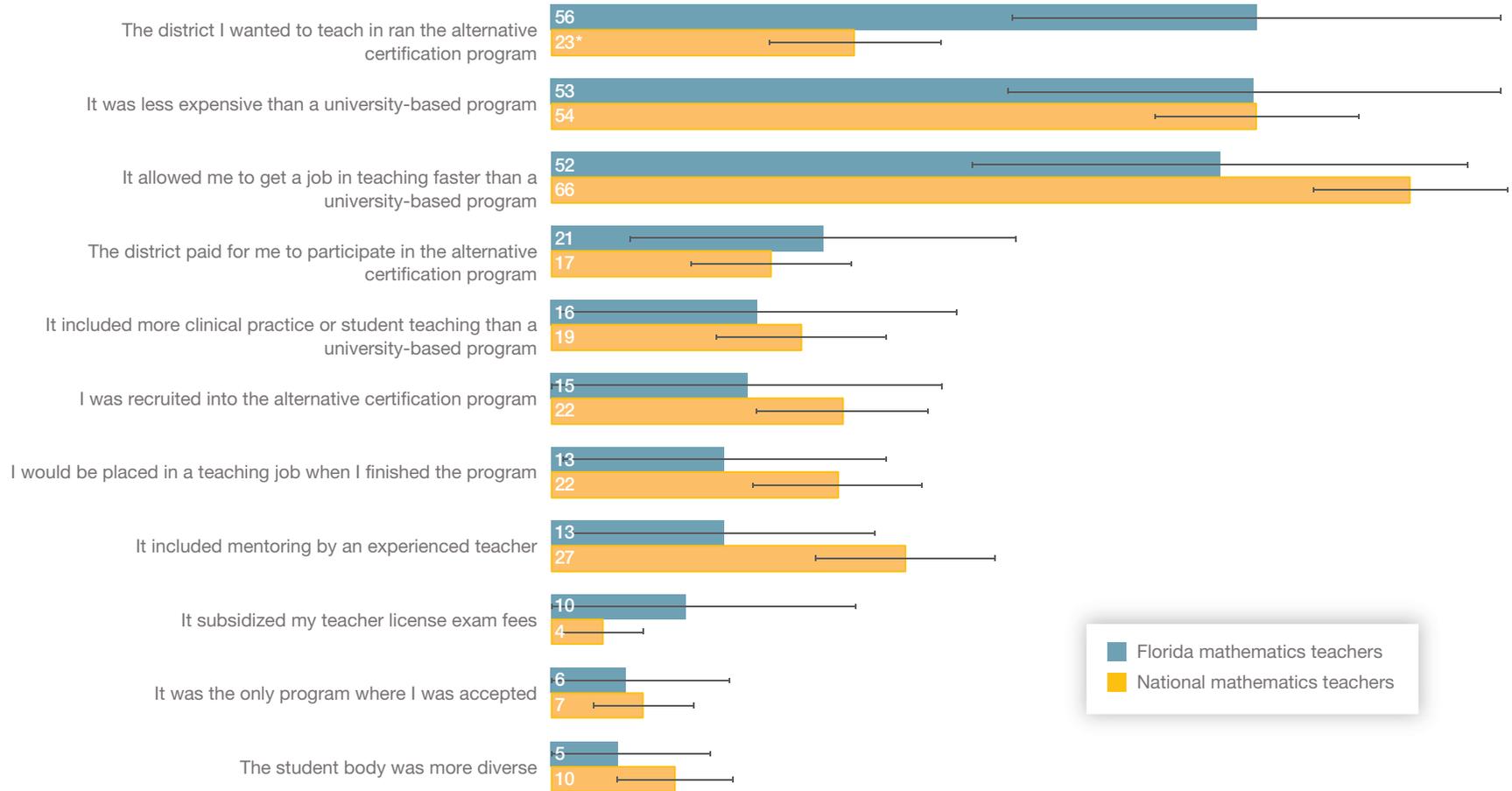


NOTE: This figure reflects the racial demographics of Florida mathematics teachers and the student populations of the schools in which they teach. Teacher racial identity was self-reported in LTS; school data on student race was obtained from the 2020–2021 National Center for Education Statistics' Common Core of Data. In the LTS, we asked teachers, "With which of the following do you identify?" Teachers were able to select all racial identities that apply: American Indian or Alaska Native; Asian; Black or African American; Hispanic, Latino, or Spanish origin; Native Hawaiian or Pacific Islander; White; and other. In the figure, White teachers consist of teachers who selected only White (e.g., does not include teachers who identified as White and Hispanic). Likewise, Black or African American teachers consist of those who selected only "Black or African American." Teachers who identified as Hispanic, Latino, or Spanish origin were coded as such regardless of other selections. Finally, Asian, Native Hawaiian, or Pacific Islander teachers consist of those who selected any of those categories but not Hispanic, Latino, or Spanish origin. Asterisks indicate statistically significant difference of pairwise comparisons between Florida mathematics teachers and their students at the $p < 0.05$ level. We do not control for teacher or school characteristics because teachers were matched with student populations in the schools in which they teach. $N = 186$.

Figure 3 reflects the racial demographics of Florida mathematics teachers and student populations of the schools in which they teach.

The Florida mathematics teaching workforce is not as racially diverse as the students in the schools in which they teach. Two-thirds of Florida mathematics teachers identified as White, whereas about two-thirds of the students in their schools identified as people of color. Said another way, for every teacher who identified as a person of color, there were approximately two students in their school who also identified this way.

Figure 4. Mathematics Teachers' Top Reasons for Enrolling in an Alternative Certification Program

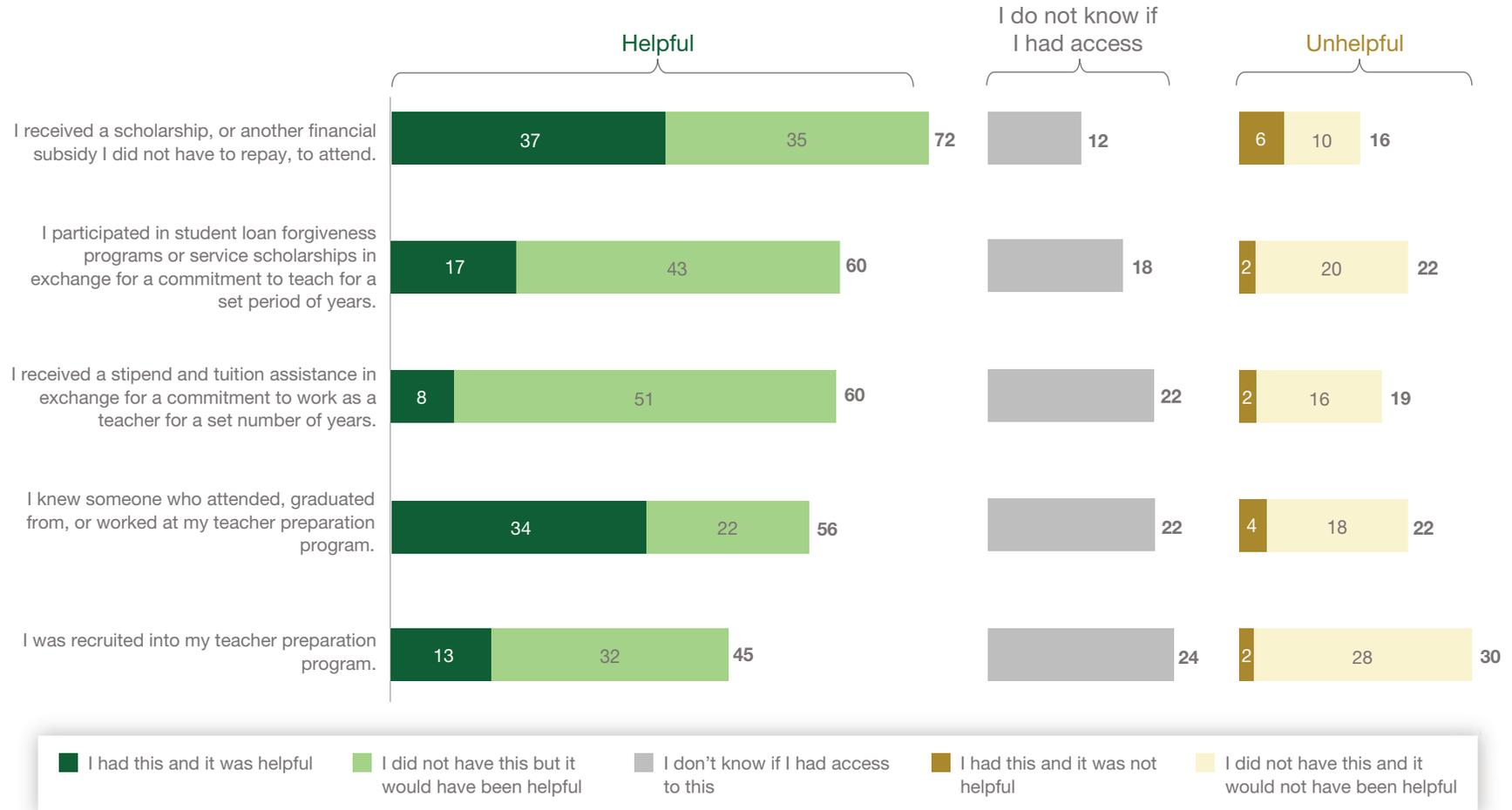


NOTE: This figure shows teachers' responses to the following question: "What were your top three reasons for choosing an alternative certification program?" Only teachers who indicated they completed a post-baccalaureate alternative certificate program were eligible to respond. Asterisks indicate statistically significant difference of pairwise comparisons between Florida mathematics teachers and other mathematics teachers nationally at the $p < 0.05$ level that were robust in linear regression models that controlled for school and teacher characteristics. $N = 31$ (Florida mathematics teachers) and 219 (mathematics teachers nationally).

Figure 4 shows mathematics teachers' top reasons for enrolling in an alternative certification program.

Fifty-six percent of Florida mathematics teachers who completed a post-baccalaureate alternative certification program said that being offered an alternative certification program by the district they wanted to teach in was among their top three reasons for attending such a program. Only 23 percent of mathematics teachers nationally selected this among their top three reasons, which suggests that district-run alternative certification programs may be more common in Florida than nationally. About half of Florida mathematics teachers who completed a post-baccalaureate alternative certification program ranked lower costs and faster completion time than university-based programs among their top three reasons for attending this type of program, similar to teachers nationally.

Figure 5. Florida Mathematics Teachers' Perceptions of and Access to Supports to Enter Teacher Preparation Programs



NOTE: This figure shows Florida mathematics teachers' responses to the following question: "Did you have access to and use any of the following supports, and to what extent did they help you enter your teacher preparation program?" The bolded numbers at the edge of the bars represent the total percentage of teachers who perceived the support as being helpful to enter a teacher preparation program (in green) or unhelpful (in brown), regardless of whether they had access to the support. The bars are color coded so that darker shades represent reported access to the support. *N* = 165.

Figure 5 reveals Florida mathematics teachers' perceptions of and access to supports to enter teacher preparation programs.

We asked teachers about supports that might have helped them to enter their teacher preparation program to assess both whether the support was available and whether it was helpful. Florida mathematics teachers perceived that policies that would help pay for their preparation program without incurring debt would be helpful supports to enter teacher preparation programs. However, many teachers who reported that such supports would be helpful did not have access to those supports. For example, 60 percent of Florida mathematics teachers thought that loan forgiveness or service scholarships in exchange for a time-limited work commitment would be useful, but relatively few had access (17 percent).

Figure 6. Percentage of Florida Mathematics Teachers Reporting Access to Supports to Enter Teacher Preparation Programs by Preparation Program Type

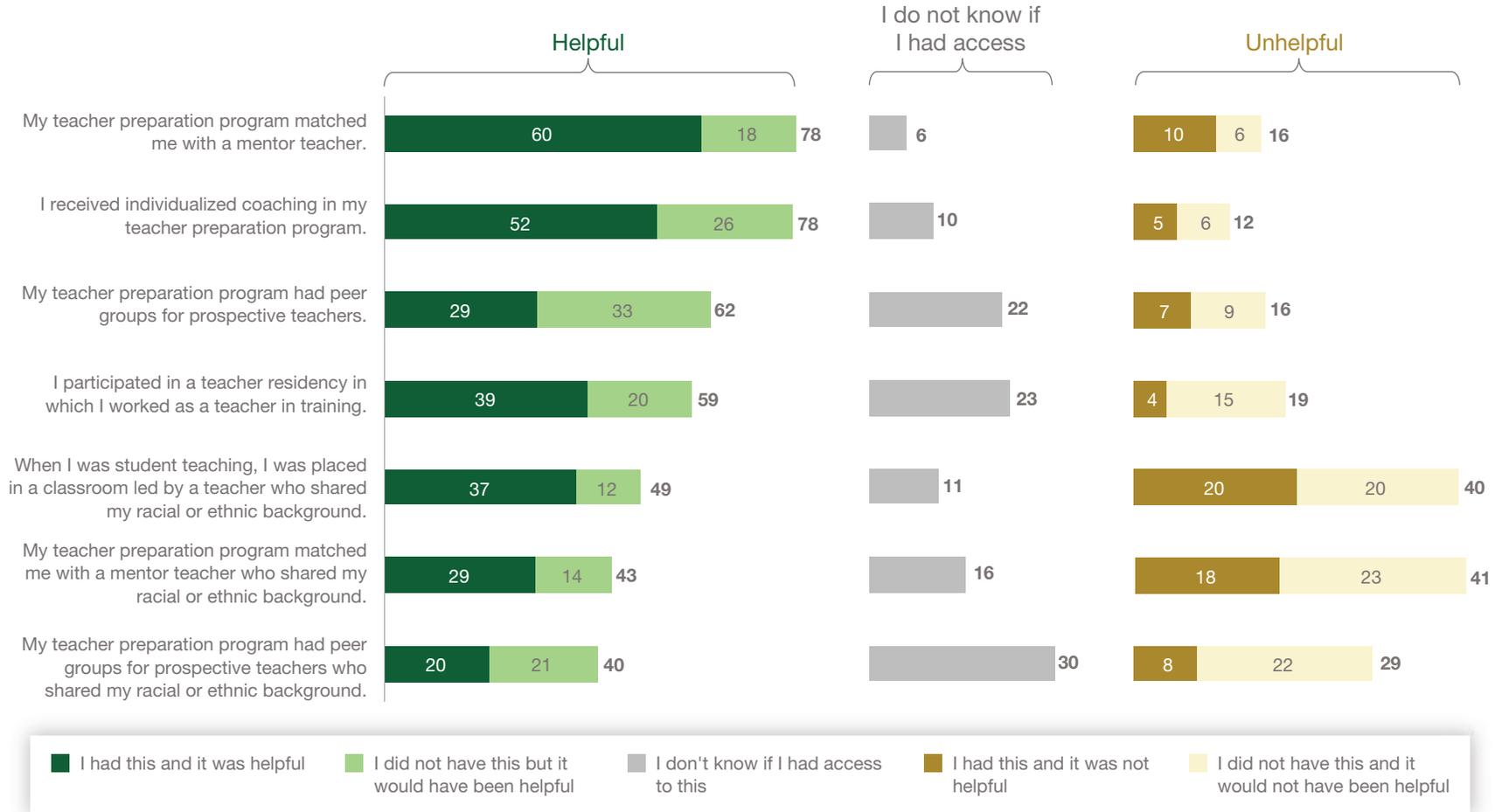
	Type of teacher preparation program completed			
	All Florida mathematics teachers <i>n</i> = 165	Undergraduate program <i>n</i> = 112	Post-baccalaureate program <i>n</i> = 41	Post-baccalaureate alternative certification program <i>n</i> = 31
I received a scholarship, or another financial subsidy I did not have to repay, to attend.	43	49	41	24
I knew someone who attended, graduated from, or worked at my teacher preparation program.	38	34	35	46
I participated in student loan forgiveness programs or service scholarships in exchange for a commitment to teach for a set period of years.	19	18	20	14
I was recruited into my teacher preparation program.	15	14	21	12
I received a stipend and tuition assistance in exchange for a commitment to work as a teacher for a set number of years.	11	8	25*	7

NOTE: This figure reflects the summed percentage of teachers responding with “I had this and it was helpful” and “I had this and it was not helpful” to the following survey question: “Did you have access to and use any of the following supports, and to what extent did they help you enter your teacher preparation program?” Said another way, the figure presents the percentage of teachers who had access to the supports. Asterisks indicate statistically significant difference of pairwise comparisons with post-baccalaureate alternative certificate programs at the $p < 0.05$ level that were also robust in linear regression models with controls for school and teacher characteristics. Some teachers completed multiple teacher preparation programs; therefore, the sum of the samples disaggregated by program type will be greater than the total.

Figure 6 shows Florida mathematics teachers' access to supports to enter teacher preparation programs, by program type.

Most Florida mathematics teachers lacked access to these supports to enter a teacher preparation program, irrespective of the type of program they completed. The only supports at least one-third of teachers had access to were financial subsidies they did not have to repay and, less formally, knowing someone who had attended, graduated from, or worked at the program. We found one statistically significant difference between preparation program types: Completers of post-baccalaureate programs were more likely to have received a stipend or tuition assistance in exchange for a work commitment than teachers who attended alternative certification programs (25 percent compared with 7 percent). National mathematics teachers reported similarly low access to supports as Florida mathematics teachers (within 10 percentage points for each support).

Figure 7. Florida Mathematics Teachers' Access to and Perceptions of Supports to Complete Teacher Preparation Programs



NOTE: This figure shows Florida mathematics teachers' responses to the following question: "Did you have access to and use any of the following supports, and to what extent did they help you complete your teacher preparation program?" The bolded numbers at the edge of the bars represent the sum percentage of teachers who perceived the support as being either helpful to complete their teacher preparation program (in green) or unhelpful (in brown), regardless of whether they had access to the support. The bars are color coded so that darker shades represent having access to the support. *N* = 166.

Figure 7 shows Florida mathematics teachers' responses to survey questions about supports that might have helped them to *complete* their teacher preparation program to assess both whether the support was available and whether it was helpful. Receiving individualized coaching and being matched with a mentor teacher were the most helpful supports for completing a teacher preparation program reported by Florida mathematics teachers. Despite teachers' perceived helpfulness of peer groups for prospective teachers, access was low. Thirty-three percent of teachers felt peer groups would be beneficial but did not have them, making it the support with the greatest unmet demand.

Figure 8. Percentage of Florida Mathematics Teachers Reporting Access to Supports to Complete Teacher Preparation Programs by Preparation Program Type

	Type of teacher preparation program completed			
	All Florida mathematics teachers <i>n</i> = 166	Undergraduate program <i>n</i> = 113	Post-baccalaureate program <i>n</i> = 42	Post-baccalaureate alternative certification program <i>n</i> = 31
My teacher preparation program matched me with a mentor teacher.	70	76	61	52
I received individualized coaching in my teacher preparation program.	58	58	62	60
When I was student teaching, I was placed in a classroom led by a teacher who shared my racial or ethnic background.	57	70*	56	22
My teacher preparation program matched me with a mentor teacher who shared my racial or ethnic background.	47	51	44	37
I participated in a teacher residency in which I worked as a teacher in training with a mentor teacher while completing coursework at a partner university.	43	45	44	37
My teacher preparation program had peer groups for prospective teachers.	36	36	22	40
My teacher preparation program had peer groups for prospective teachers who shared my racial or ethnic background.	28	33*	26	15

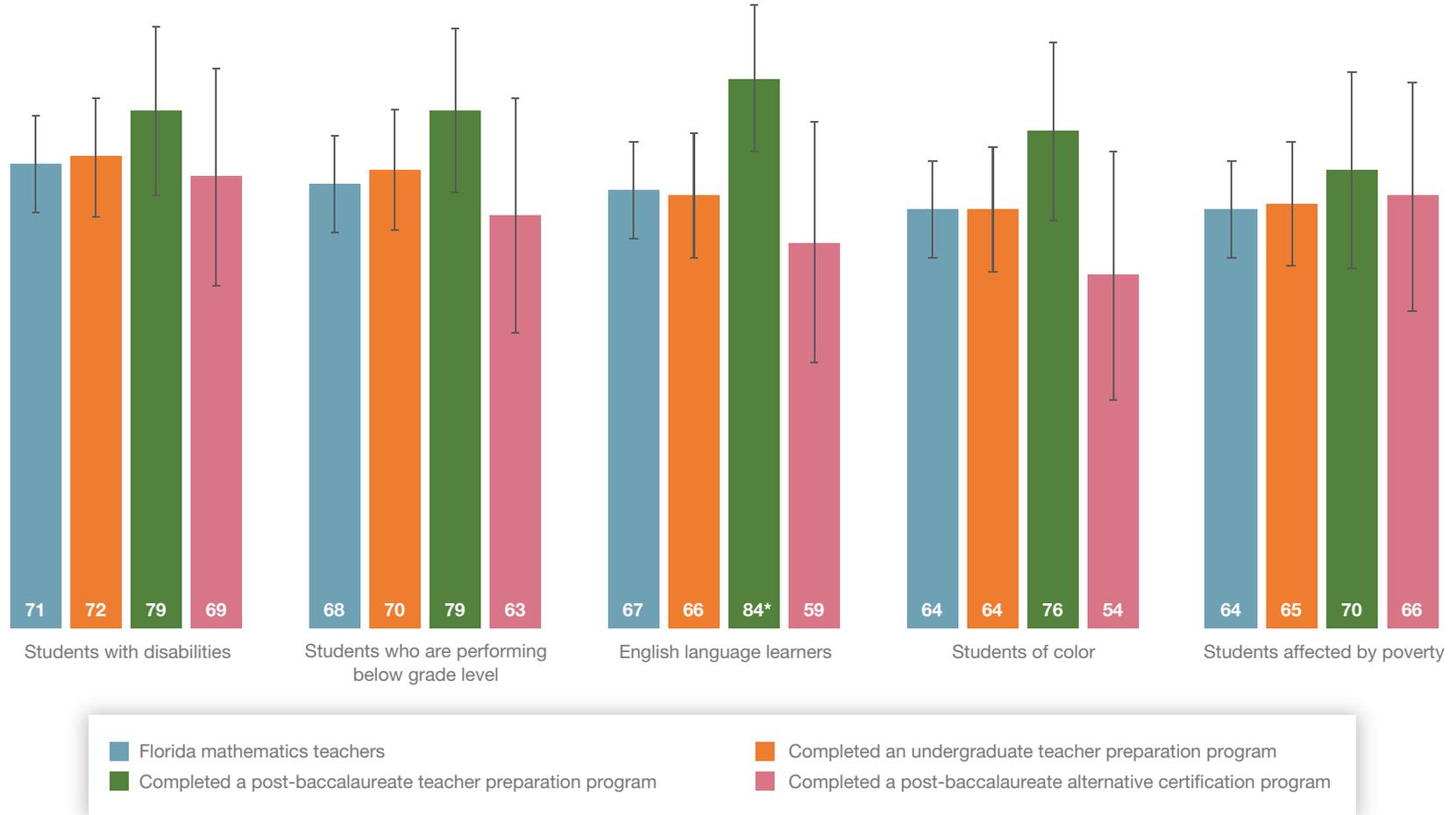
NOTE: This figure reflects the percentage of teachers responding with “I had this and it was helpful” or “I had this and it was not helpful” to the following survey question: “Did you have access to and use any of the following supports, and to what extent did they help you complete your teacher preparation program?” Said another way, the figure presents the percentage of teachers who had access to these supports. Asterisks indicate statistically significant difference of pairwise comparisons with post-baccalaureate alternative certificate programs at the $p < 0.05$ level that were robust in linear regression models that controlled for school and teacher characteristics. Some teachers completed multiple teacher preparation programs; therefore, the sum of the samples disaggregated by program type will be greater than the total.

Figure 8 reflects the percentage of Florida mathematics teachers who had access to various supports.

Most Florida mathematics teachers had access to a mentor teacher, individualized coaching, and student teaching in the classroom of a teacher who shared their racial or ethnic background as supports to complete their teacher preparation program. Fewer teachers had access to peer groups for prospective teachers (36 percent overall and 28 percent with prospective teachers who shared their racial or ethnic background). National mathematics teachers reported access to each support within 10 percentage points of Florida mathematics teachers.

We found only two statistically significant differences between preparation program types, possibly because of the small sample size. First, completers of undergraduate programs were more likely than those from alternative certification programs to have been placed in a classroom led by a teacher who shared their racial or ethnic background while student teaching (70 percent compared with 22 percent). They also were more likely to have had a peer group for prospective teachers who shared their racial or ethnic background (33 percent compared with 15 percent).

Figure 9. Percentage of Florida Mathematics Teachers Reporting Their Teacher Preparation Program Prepared Them to Teach Mathematics to Different Student Groups, by Preparation Program Type



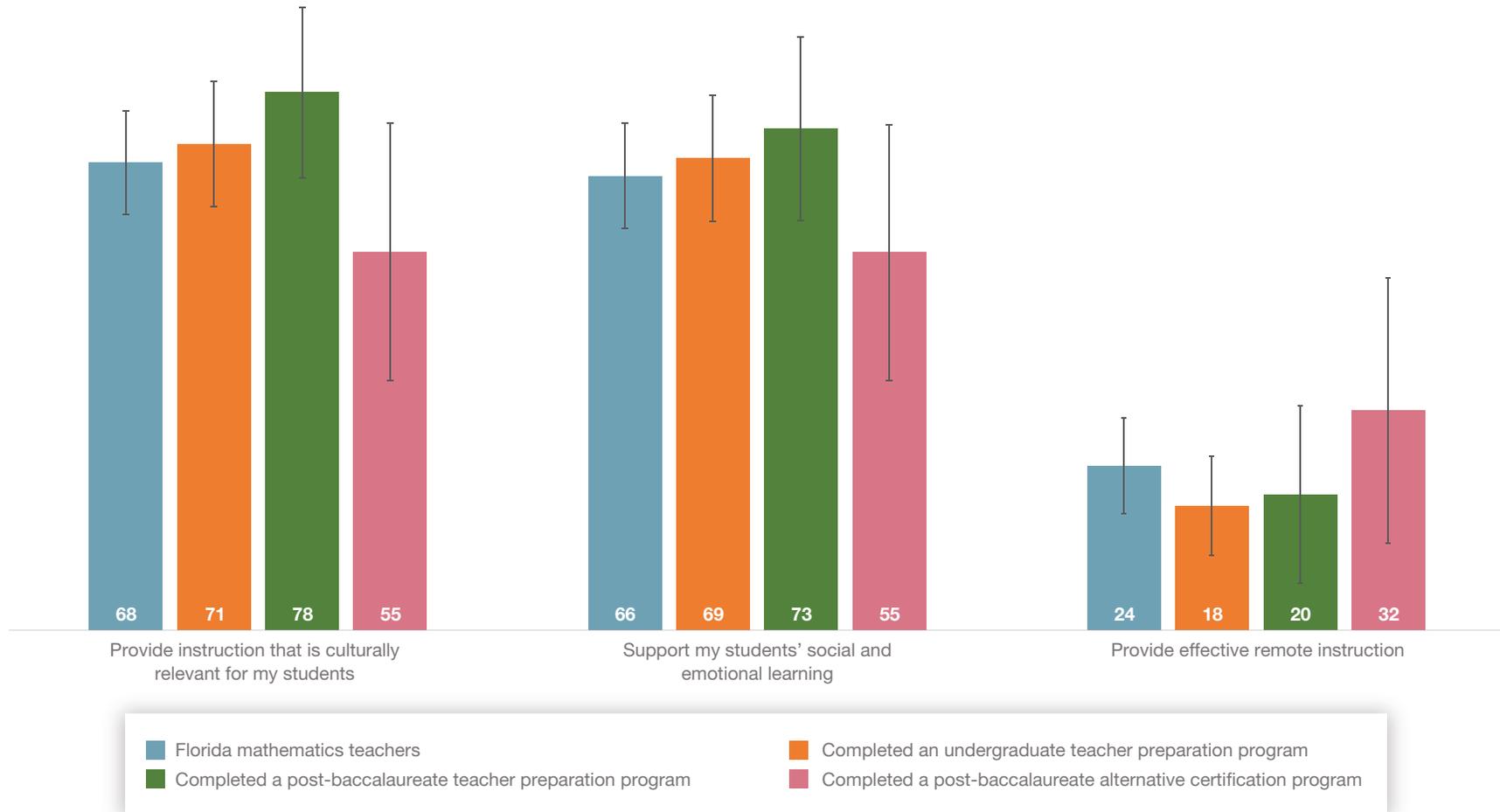
NOTE: This figure reflects the percentage of teachers who responded “strongly agree” or “agree” to the following survey question: “Overall, my teacher preparation program prepared me well to teach math to . . .” Asterisks indicate statistically significant difference of pairwise comparisons with post-baccalaureate alternative certificate programs at the $p < 0.05$ level that were robust in linear regression models that controlled for school and teacher characteristics. $N = 166$ (Florida mathematics teachers), 113 (completed undergraduate teacher preparation program), 42 (completed post-baccalaureate teacher preparation program), and 31 (completed a post-baccalaureate alternative certificate program). Some teachers completed multiple teacher preparation programs; therefore, the sum of the samples disaggregated by program type will be greater than the total.

Figure 9 reflects the percentage of Florida mathematics teachers who felt that their teaching supports prepared them to teach mathematics to various student groups.

Florida mathematics teachers generally thought their teacher preparation programs effectively prepared them to teach mathematics to diverse groups of students, irrespective of the type of program they completed. Approximately two-thirds of Florida mathematics teachers felt ready to teach students with disabilities, students performing below grade level, English language learners, students of color, and students affected by poverty, endorsing the value of their teacher preparation programs. National mathematics teachers reported having slightly less preparedness as Florida mathematics teachers (within 10 percentage points), except in teaching mathematics to English language learners (53 percent) and students affected by poverty (53 percent), which were statistically significant differences.

More completers of post-baccalaureate programs reported that they felt prepared to teach mathematics to students in these groups (70 percent to 84 percent of Florida mathematics teachers, depending on the student group) than those from alternative certification programs (54 percent to 69 percent), but these differences were statistically significant only for teaching English language learners.

Figure 10. Percentage of Florida Mathematics Teachers Who Reported Their Teacher Preparation Program Prepared Them to Support Students' Social and Emotional Learning and Provide Remote and Culturally Relevant Instruction, by Preparation Program Type



NOTE: This figure reflects the percentage of teachers who responded with “strongly agree” or “agree” to the following survey question: “Overall, my teacher preparation program prepared me well to” No pairwise comparisons with post-baccalaureate alternative certificate programs were statistically significant at the $p < 0.05$ level and robust in linear regression models that controlled for school and teacher characteristics. $N = 166$ (Florida mathematics teachers), 113 (completed undergraduate teacher preparation program), 42 (completed post-baccalaureate teacher preparation program), and 31 (completed a post-baccalaureate alternative certificate program). Some teachers completed multiple teacher preparation programs; therefore, the sum of the samples disaggregated by program type will be greater than the total.

Figure 10 shows the percentage of Florida mathematics teachers who felt that their teacher preparation programs prepared them to provide culturally relevant instruction, support social and emotional learning, and provide effective remote instruction.

Florida mathematics teachers also generally thought their teacher preparation programs prepared them to support students' social and emotional learning and provide culturally relevant instruction. Few teachers, regardless of their preparation program, reported that their program prepared them to provide effective remote instruction. Similar to teachers' self-identified preparedness to teach mathematics, more completers from undergraduate and post-baccalaureate programs felt ready to provide culturally relevant instruction and support students' social and emotional learning than those from alternative certification programs. However, none of the differences reported in the figure were statistically significant after controlling for teacher and school characteristics, possibly because of the small sample size.

National mathematics teachers thought their teacher preparation programs prepared them to provide culturally relevant and effective remote instruction slightly less than Florida mathematics teachers (61 percent and 19 percent, respectively). Fewer national mathematics teachers also thought they had been prepared to support students' social and emotional learning (52 percent), which was a statistically significant difference.

Figure 11. Percentage of Florida Mathematics Teachers Who Wanted Their Teacher Preparation Program to Spend More Time Covering Various Topics by Preparation Program Type

	Type of teacher preparation program completed			
	All Florida mathematics teachers <i>n</i> = 166	Undergraduate program <i>n</i> = 113	Post-baccalaureate program <i>n</i> = 42	Post-baccalaureate alternative certification program <i>n</i> = 31
How to manage student behavior	68	67	65	75
Social and emotional learning	66	68	66	70
Practical strategies to engage students	59	57	57	77
How to support students with disabilities	59	59	55	68
Culturally responsive pedagogy	48	51	52	51
How to navigate controversial political events in my teaching	40	42	39	33
The knowledge and skills I need to teach in my subject area (e.g., mathematics, ELA, science, social studies)	31	29	29	44
Observing my teaching and providing me with feedback	29	27	30	37
Preparing for the licensing exam	28	28	29	33
Student teaching	27	27	26	31
Pedagogical theory	22	19	25	38

NOTE: This figure reflects the percentage of teachers who responded “more time” to the following survey question: “Should your teacher preparation program have spent less time, the same amount of time, or more time, on the following topics or activities.” Teachers were also able to select “N/A—my program did not address this topic.” These responses were removed from the analysis. None of the pairwise comparisons with post-baccalaureate alternative certificate programs was significant at the $p < 0.05$ level and robust in linear regression models that controlled for school and teacher characteristics. Some teachers completed multiple teacher preparation programs; therefore, the sum of the samples disaggregated by program type will be greater than the total.

Figure 11 shows the percentage of Florida mathematics teachers who wanted their teacher preparation programs to spend more time on various topics.

Topic coverage was reportedly similar across teacher preparation program type. Although most Florida mathematics teachers thought they were well prepared to provide instruction that was culturally responsive and to meet their students' social and emotional needs (Figure 10), one-half to two-thirds of teachers wanted their preparation programs to spend more time on these topics, along with managing student behavior (68 percent), supporting students with disabilities (59 percent), and practical strategies to engage students (59 percent). Completers of alternative certification programs expressed slightly greater demand for these topics. However, none of the differences reported in this table was statistically significant after controlling for teacher and school characteristics, possibly because of the small sample size.

Most teachers were exposed to all the surveyed topics during their preparation program. However, more than 10 percent of teachers reported that their program did not cover the following topics: how to navigate controversial political events in my teaching (27 percent), preparing for the licensing exam (13 percent), social and emotional learning (12 percent), and culturally responsive pedagogy (11 percent).

How This Analysis Was Conducted

Data for this report were drawn from the 2022 Learn Together Survey (LTS). The LTS has been administered yearly to K–12 teachers in March and April via the RAND Corporation’s American Teacher Panel (ATP) since 2019. The survey was developed by RAND, in collaboration with the Bill & Melinda Gates Foundation, to generate nationally representative data on teacher perspectives.

The 2022 LTS survey yielded 3,608 responses out of 6,368 invitations for teachers with 103 screened-out cases (58 percent completion rate; Doan et al., 2022). Each LTS respondent was assigned a weight to ensure that estimates based on the LTS sample reflect the national (or state) population of teachers. Characteristics that factor into this process include descriptors at the individual level (e.g., gender, professional experience) and school level (e.g., school size, level, locale, socioeconomic status). Teachers were oversampled in five states, including Florida, to permit state-level subgroup analyses. The LTS sample included 404 Florida teachers in all subject areas. This report relies on the responses of 186 Florida K–12 mathematics teachers who were categorized as mathematics teachers based on their responses to the survey question, “Are you teaching any mathematics courses this school year (2021–2022)?” This report also relies on the responses of 1,733 K–12 mathematics teachers nationally.

In this report, we compared teacher responses across various school and teacher-level characteristics, including geographic region (Florida compared with national), teachers’ gender identity, and the type of teacher preparation program completed (undergraduate program, post-baccalaureate program, post-baccalaureate alternative certification program). We also compared but did not report differences by school free or reduced-price lunch (FRPL) enrollment, percentage of non-White students, and school locale (city, suburban, town, rural) and various self-reported teacher-level characteristics, such as grade band taught, race and/or ethnicity, and years of professional experience. We did not report these comparisons because they were not substantively different or had limited interpretation because of the small sample size. School demographic characteristics were obtained from the 2019–2020 and 2020–2021 National Center for Education Statistics’ Common Core of Data, depending on the most recent data available for the school.

All comparisons made in this report are unadjusted for statistical controls and tested for statistical significance at the $p < 0.05$ level using t -tests. We verified the robustness of these comparisons using linear regression models that controlled for the inclusion of school characteristics (i.e., grade level, locale, FRPL enrollment rate, percentage of non-White students) and teachers’ gender identity and years of total teaching experience. We note where educator subgroup differences are no longer significant after controlling for school-level and educator-level characteristics. These regression analyses are useful for understanding the drivers of differences, but we do not present regression-adjusted statistics because we believe that these subgroup differences remain notable even if they could be driven by multiple underlying factors. Moreover, we present only our unadjusted findings and did not make statistical adjustments for

multiple comparisons because the intent of this report is to provide exploratory, descriptive information rather than to test specific hypotheses or causal relationships.

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About This Report

In this report, we draw on January 2022 surveys of teachers from the American Teacher Panel (ATP), which is a nationally representative sample of more than 22,000 teachers across the United States. The ATP is one of three survey panels that comprise the American Educator Panels (AEP), which are nationally representative samples of teachers, school leaders, and district leaders across the country. The panels are a proud member of the American Association for Public Opinion Research's Transparency Initiative. For more information about any one of the survey panels, visit www.rand.org/aep.

For technical information about the surveys and analysis in this report, please see *Learn Together Surveys: 2022 Technical Documentation and Survey Results* (RR-A827-9, available at www.rand.org/t/RRA827-9). If you are interested in using AEP data for your own surveys or analysis or in reading other publications related to the AEP, visit www.rand.org/aep or contact aep@rand.org.

RAND Education and Labor

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